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State of Montana



Report to the Legislature

November 1998

EDP Audit

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Banner Human Resource System

The University of Montana - Missoula

This report provides information regarding our EDP audit of controls relating to the Banner Human Resource System. It contains five individual recommendations for improving controls within the University's electronic data processing environment. These recommendations address improving:

- ▶ Disaster recovery procedures.
- ▶ Controls over data input.
- ▶ Payroll processing policies and procedures.

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Members of the EDP audit staff hold degrees in disciplines appropriate to the audit process. Areas of expertise include business and public administration.

EDP audits are performed as stand-alone audits of EDP controls or in conjunction with financial-compliance and/or performance audits conducted by the office. These audits are done under the oversight of the Legislative Audit Committee which is a bicameral and bipartisan standing committee of the Montana Legislature. The committee consists of six members of the Senate and six members of the House of Representatives.

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November 1998

The Legislative Audit Committee
of the Montana State Legislature


This report is our EDP audit of controls relating to the Banner Human Resource System at the University of Montana - Missoula. This report contains recommendations for improving controls within the Banner data processing environment. University responses to our audit recommendations are included in the back of the audit report.

We thank the University for its cooperation and assistance throughout the audit.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Scott A. Seacat", written over a horizontal line.

Scott A. Seacat
Legislative Auditor



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Legislative Audit Division

EDP Audit

Banner Human Resource System

The University of Montana - Missoula

Members of the audit staff involved in this audit were Rich McRae, Rene Silverthorne, and Lon Whitaker.

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The University of Montana - Missoula

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Introduction

The Banner Human Resource System is made up of many interactive functions necessary for human resource administration. Benefits administration, time reporting, and payroll calculation are examples of some of the functions.

This audit evaluated controls implemented by the University over Banner in selected areas. We reviewed electronic access controls to determine if access privileges are granted according to users' job responsibilities. We also evaluated the HRS office's procedures for recovery from a system failure in relation to University disaster recovery procedures. The audit reviewed policies and procedures in relation to payroll input, processing, and output controls.

A discussion of audit scope and background information is included in Chapter I. Further detail for the audit issues summarized below is included in Chapter II. *Overall, the Banner Human Resource System provides accurate processing results, based on the information input for processing.* Banner accurately computes employee payroll and system reports are reliable. However, input controls should be improved.

Disaster Recovery

We found that HRS has not established internal procedures to maintain payroll operations in the event that computing resources are lost. Without recovery procedures, the University may be unable to process payroll within required time frames following loss of computer resources.

Prior EDP audit 93DP-38 and follow-up audit 96DP-03 have recommended the University establish disaster recovery procedures and that the Board of Regents establish formal policies for safeguarding information technology resources in accordance with section 20-25-301(16), MCA. These recommendations are not implemented. Therefore, the HRS office should establish other backup procedures to process payroll.

Report Summary

Input Authorization and Reconciliation Controls

Input authorization controls verify all transactions have been properly authorized and approved prior to data entry. Student employee time cards and payroll rosters, which are used to report faculty, staff, and administrative employee time worked, are the source documents for payroll input.

The HRS office acts as a central processor over payroll transactions submitted by the campus departments. To strengthen authorization controls over payroll input, the departments should follow controlled procedures for secured delivery of time cards and rosters to HRS. Furthermore, reconciliation procedures performed within the department could ensure payroll processed as intended.

Student Employee Termination Procedures

University departments hire students and submit payroll information to HRS to add employees to the Banner system and initiate payroll processing. However, the departments do not always notify HRS when students terminate their employment. University personnel policies require the hiring departments to provide notice of termination.

To reduce the potential for unauthorized payroll processing, the University should enforce current policies requiring departments to notify HRS of student employee terminations and temporarily deactivate accounts.

Authorization for Hiring New Employees

University policy requires designated department management to authorize new employee hires for permanent classified employees, faculty, administrators, professionals and individuals on letters of appointment. Two of fourteen hiring authorization forms we reviewed were not authorized by designated management. Other department supervisors approved the payroll forms instead.

HRS maintains a list of executive officers, deans, and directors designated to approve new employee hires. The HRS office should update the signature list to help ensure controls over input remain with department employees authorized to approve transactions.

Chapter I - Introduction

Introduction and System Background

We performed an electronic data processing (EDP) audit of The University of Montana's Banner Human Resource System. The audit reviewed input, processing, and output controls over human resource data processed through Banner. In addition, the audit reviewed controls over electronic access and disaster recovery as related to the Banner payroll application. The audit was performed in coordination with the Legislative Audit Division Financial Compliance biennial audit of The University of Montana - Missoula.

Banner is a commercially developed application which operates on the University's mainframe. The Banner Human Resource System is made up of many interactive functions necessary for human resource administration. The functions include position control, applicant tracking, employment and compensation administration, benefits administration, time reporting, payroll calculation, and payroll adjustments and history. For each function there are numerous screens which Human Resource Service employees access to view or update employee information.

The Banner Human Resource System interfaces with the other Banner modules purchased by the University, including the Student Information and Student Financial Aid Systems. Banner uses software which connects information between the Banner modules. For example, student employee status for payroll processing is verified by checking the number of student credits assigned to an employee in the Student Information System.

In May 1998 the Human Resource Services (HRS) office processed payroll transactions through Banner for 4,385 employees located in 128 departments, programs, and offices throughout the Missoula campuses. Total employees are categorized as follows: 747 faculty, 77 administrators, 130 professional, 1,071 classified, 292 temporary classified, and 2,068 students.

With the implementation of the Banner Human Resource System in July 1996, the University delegated responsibility for data preparation and authorization to campus-wide departments. Each department

Chapter I - Introduction

maintains supporting documentation and initiates transactions to be processed through the payroll system. The University plans to implement all Banner systems, including the Human Resource System, at its other campuses (Helena, Butte, and Dillon) by calendar year 2000.

Organization of Report

The report is organized into two chapters. Chapter I provides an introduction and background on the Banner Human Resource System. Chapter II addresses the audit findings related to controls over the Human Resource System and data processed through the system.

Audit Objectives

The objectives of this audit were to evaluate, conclude, and report on:

1. Controls over data processed by the Banner Human Resource System. The audit evaluated data input controls, primary processing functions, and the reliability of system output.
2. Electronic access controls and disaster recovery planning and testing.
3. Compliance with state law, federal regulations, and University payroll policies.

Audit Scope and Methodology

The audit was conducted in accordance with government auditing standards. We compared the University's controls against criteria established by the American Institute of Certified Public Accountants, United States General Accounting Office, and the electronic data processing industry.

This audit evaluated controls implemented by the University over Banner in selected areas. We reviewed electronic access controls to determine if access privileges are granted according to users' responsibility for entering transactions, processing payroll, reviewing confidential payroll data, and maintaining application software. We also evaluated the HRS office's procedures for recovery from a system failure in relation to University disaster recovery procedures.

The audit reviewed policies and procedures in relation to payroll input, processing, and output controls. For example, we reviewed

payroll preparation and submission procedures and data entry performed by HRS personnel. We also performed tests over payroll calculations and compared anticipated results against processing results reported by the system.

Compliance

The audit reviewed application processing for compliance with University procedures and policies, and state and federal laws. We verified Banner properly classifies income and benefits as taxable or non-taxable, and that withholding rates agree with federal and state law. We determined the University to be in compliance with laws applicable to the processing of payroll as tested.

Chapter II - Banner Human Resource System

Introduction

This chapter discusses audit issues we identified within the Banner processing environment. We limited our control work to areas specifically related to payroll input, processing and output functions. The audit focused on manual and automated procedures over payroll processing operations within the HRS office. We evaluated campus-wide procedures which ensure data submitted to HRS is valid, authorized, and agrees to processing results.

Banner Human Resource System Provides Accurate Processing Results

The Banner Human Resource System provides accurate processing results, based on the information input for processing. Banner accurately computes employee payroll and system reports are reliable. However, input controls should be improved. Our audit findings primarily address campus-wide department procedures over payroll initiation, authorization, and reconciliation. In general, we found some departments do not follow controlled procedures for authorizing and reconciling payroll.

The following sections discuss audit issues based on review of campus-wide payroll preparation procedures and centralized input, processing and output controls over payroll data.

Disaster Recovery

The University has not completed formal disaster recovery procedures over campus-wide computer systems. This audit focused on payroll recovery procedures within the Human Resource Services office. We found that HRS has not established internal procedures to maintain payroll operations in the event that computing resources are lost. Without recovery procedures, the University may be unable to process payroll within required time frames following loss of computer resources.

Prior EDP audit 93DP-38 and follow-up audit 96DP-03 have recommended the University establish disaster recovery procedures and that the Board of Regents establish formal policies for safeguarding information technology resources in accordance with section 20-25-301(16), MCA. These recommendations are not implemented. Therefore, the HRS office should establish other backup procedures to process payroll.

Chapter II - Banner Human Resource System

The University anticipates establishing campus-wide recovery procedures once Banner is implemented at the University campuses located in Butte, Dillon, and Helena. Internal procedures can be incorporated into campus-wide formal recovery procedures when the University completes a formal disaster recovery plan.

Recommendation #1

We recommend the HRS office establish internal procedures to process payroll operations in the event that Banner automated processing functions are unavailable.

Input Authorization and Reconciliation Controls

Input authorization controls verify all transactions have been properly authorized and approved prior to data entry. Student employee time cards and payroll rosters, which are used to report faculty, staff, and administrative employee time worked, are the source documents for payroll input. Student time cards include daily hours worked, the student signature and supervisor authorization. The rosters report pre-established pay period activity which payroll clerks from individual departments update with current pay period information. The following examples discuss areas where campus departments could improve controls to ensure validity of authorized time input for processing:

- Some campus departments allow students to deliver their own time cards, or individuals without payroll responsibility to deliver payroll rosters after they have been authorized by the supervisor. As a result, the authorization control is bypassed.

Unsecured delivery of payroll input increases the risk of inappropriate changes to recorded hours since HRS employees assume the changes are made by authorized department personnel. Four of fourteen department payroll rosters reviewed include changes to recorded payroll data. Changes included adjustments to compensatory time and overtime hours earned, and direct time charged.

Chapter II - Banner Human Resource System

- We identified student time cards where the supervisor signed the student employee's name. By signing the student employee's name, the supervisor has released the employee from accountability for the hours recorded on the time card. Because the supervisor is also responsible for budget administration and is authorized to hire and terminate student employees, improper payroll transactions could be processed without detection.
- Two of nine departments questioned do not reconcile processed payroll to the original data submitted for input. Instead, they rely on employees to report any paycheck errors. Therefore, unauthorized changes entered in Banner would not be detected.

The HRS office acts as a central processor over payroll transactions submitted by the campus departments. To strengthen authorization controls over payroll input, the departments should follow controlled procedures for secured delivery of time cards and rosters to HRS. Furthermore, reconciliation procedures performed within the department could ensure payroll processed as intended.

Recommendation #2

We recommend The University of Montana - Missoula establish policies over payroll input, authorization, and payroll review procedures.

Student Employee Termination Procedures

The University employs over 4000 students through college work study programs, graduate assistance programs, and non-work study positions each year. University departments hire the students and submit payroll information to HRS to add employees to the Banner system and initiate payroll processing. However, the departments do not always notify HRS when students terminate their employment. University personnel policies require the hiring departments to provide notice of termination.

Since many student employees' work schedules are sporadic and others temporarily terminate employment, campus departments leave

Chapter II - Banner Human Resource System

the student employee account active. Once a year, student employee accounts not showing payroll activity for the previous three months are deleted. The risk associated with leaving a terminated employee's account active, is a time card being processed before the terminated employee account is identified. The account would appear active when HRS does their annual review. The departments that are not reconciling processed payroll to the time submitted by employees will not detect the unauthorized paychecks for a period of time.

To reduce the potential for unauthorized payroll processing, the University should enforce current policies requiring departments to notify HRS of student employee terminations and temporarily deactivate accounts.

Recommendation #3

We recommend The University of Montana - Missoula enforce current policy regarding termination and deactivate student payroll upon termination.

Authorization for Hiring New Employees

University policy requires designated department management to authorize new employee hires for permanent classified employees, faculty, administrators, professionals and individuals on letters of appointment. Two of fourteen hiring authorization forms we reviewed were not authorized by designated management. Other department supervisors approved the payroll forms instead.

Industry guidelines suggest management establish procedures to ensure only authorized transactions be entered into the system for processing. HRS maintains a list of Executive Officers, Deans, and Directors designated to approve new employee hires. We found the list was not complete.

HRS personnel processed these payroll transactions because they were familiar with the individuals who approved the forms. However, unless established procedures are followed, improper transaction processing may occur. A complete authorized signature list will help

Chapter II - Banner Human Resource System

ensure controls over input remain with department employees authorized to approve transactions. The HRS office should update the signature list and restrict processing unless authorization is designated according to the signature list.

Recommendation #4

We recommend The University of Montana - Missoula:

- A. Establish procedures to periodically update the authorized signature list; and,**
- B. Process new employee payroll transactions in accordance with University policy.**

The University of Montana

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The University
of Montana
Missoula

15 October, 1998

Montana Tech
of
The University
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Butte

Mr. Scott A. Seacat
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Legislative Audit Division
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Western
Montana College
of
The University
of Montana
Dillon

Dear Mr. Seacat:

I have enclosed The University of Montana - Missoula's response to Legislative Audit Division Banner Human Resource System EDP Audit. We concur with all recommendations and will address them as outlined in our response.

Helena College of
Technology
of
The University
of Montana
Helena

We appreciate the cooperative efforts made by the audit team and thank those involved for their assistance. I believe as we progress into the next millennium we all gain from this proactive approach to reviewing our automated process and procedures.

Sincerely,

George M. Dennison,
President

Enclosure

c: K. Burgmeier, Director, Internal Audit
V. S. Cole, Vice President for Administration and Finance
R. Crofts, Commissioner of Higher Education

THE UNIVERSITY OF MONTANA

Response to Legislative Audit Division Banner Human Resource System – EDP Audit

RECOMMENDATION #1

WE RECOMMEND THE HRS OFFICE ESTABLISH INTERNAL PROCEDURES TO PROCESS PAYROLL OPERATIONS IN THE EVENT THAT BANNER AUTOMATED PROCESSING FUNCTIONS ARE UNAVAILABLE.

RESPONSE

THE UNIVERSITY OF MONTANA CONCURS WITH THE RECOMMENDATION. As the University works toward developing a realistic and practical disaster recovery plan for The University of Montana campuses, departments will be advised to develop their own interim backup plans. Human Resource Services personnel, in consultation with Computing and Information personnel, will develop alternatives for processing payroll which do not rely upon the Banner automated processing function. A recommended alternative will be presented for administrative approval by 30 June 1999.

RECOMMENDATION #2

WE RECOMMEND THE UNIVERSITY OF MONTANA – MISSOULA ESTABLISH POLICIES OVER PAYROLL INPUT, AUTHORIZATION, AND PAYROLL REVIEW PROCEDURES.

RESPONSE

THE UNIVERSITY OF MONTANA CONCURS WITH THE RECOMMENDATION. General departmental payroll procedures will be developed and distributed by 1 July 1999. With distribution of these procedures, Human Resource Services personnel will also provide training to educate campus personnel responsible for payroll on the importance and need for the various procedures. Also starting 1 July 1999, Human Resource Services will perform informal reviews on various departments to ensure compliance with policies and procedures. Internal Audit has included a payroll compliance audit in their Audit Plan.

RECOMMENDATION #3

WE RECOMMEND THE UNIVERSITY OF MONTANA – MISSOULA ENFORCE CURRENT POLICY REGARDING TERMINATION AND DEACTIVATE STUDENT PAYROLL UPON TERMINATION.

RESPONSE

THE UNIVERSITY OF MONTANA CONCURS WITH THE RECOMMENDATION. Human Resource Services personnel will educate departmental/office personnel on the importance of compliance with termination procedures - especially for students. Starting in fiscal year 1999-2000, quarterly reports will be sent to campus departments and will require their review and verification of student employees.

RECOMMENDATION #4

WE RECOMMEND THE UNIVERSITY OF MONTANA – MISSOULA:

- A. ESTABLISH PROCEDURES TO PERIODICALLY UPDATE THE AUTHORIZED SIGNATURE LIST; AND**
- B. PROCESS NEW EMPLOYEE PAYROLL TRANSACTIONS IN ACCORDANCE WITH UNIVERSITY POLICY.**

RESPONSE

THE UNIVERSITY OF MONTANA CONCURS WITH BOTH RECOMMENDATIONS.

As Human Resource Services personnel implement and train campus personnel on the newly developed payroll processing procedures they will remind them of all payroll policies and procedures. This training will commence 1 July 1999. Human Resource Services personnel will also give greater attention to documents ensuring authorized signatures.

